## Amendments to and Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

## CLAIMS:

1. (currently amended) ~~An~~ A breathing apparatus for providing a rebreathable ~~breathing an~~ air mixture expired by a user, ~~providing an air mixture~~ which air mixture has a lower oxygen concentration than the ambient air, said apparatus comprising:
an expiratory path, said expiratory path communicating with a reservoir, ~~said reservoir being of adjustably variable volu~~ ;
an inspiratory path communicating with said reservoir through a $CO_2$ absorption chamber; ~~and~~
a directional valve~~, said directional valve allowing single direction flow of air through both~~ in each of said expiratory path and said inspiratory path; and
means of communication of said expiratory path and said inspiratory path in sealed engagement with the respiratory system of a user.

2. (currently amended) The apparatus of claim 25 ~~1~~ wherein said reservoir additionally comprises:
means to vary the volume of the said reservoir from a minimum volume area to a maximum volume area.

3. (currently amended) The apparatus of claim 2 wherein said means to vary the volume of said reservoir comprises:
said reservoir being formed by a flexible membrane housed in a chamber, ~~said flexible membrane housed in a,~~ said chamber formed inside a reservoir case having a sidewall, an endwall and an aperture end opposite said endwall; and

means to vary the volume of said chamber thereby limiting the expansion of said flexible membrane forming said reservoir.

4. (currently amended) The apparatus of claim 3 wherein said means to vary the volume of said chamber comprises:
said reservoir case being formed of a telescopic sidewall terminating at said endwall on one end and said aperture end, said sidewall extendable from a first position wherein said chamber is of minimum volume to an extended position wherein said chamber is of maximum volume.

5. (currently amended) The apparatus of claim 4 wherein ~~said means to vary the volume of said chamber additionally comprises~~ said sidewall is extendable to at least one additional different position between said first position and said extended position; and wherein the means to hold said sidewall in said at least one additional different position ~~thereby allowing~~ allows user adjustment of the total volume of said chamber and concurrently the total volume of said reservoir.

6. (currently amended) The apparatus of claim 1, additionally comprising ~~addition lly comprising~~:
means for mixing inspired air communicated to said user from said inspiratory path with ambient air, thereby adjusting oxygen content of said inspired air.

7. (original) The apparatus of claim 2 additionally comprising:
means for mixing inspired air communicated to said user from said inspiratory path with ambient air, thereby adjusting oxygen content of said inspired air.

8. (original) The apparatus of claim 3 additionally comprising:
means for mixing inspired air communicated to said user from said inspiratory path with ambient air, thereby adjusting oxygen content of said inspired air.

9. (currently amended) The apparatus of claim 6 ~~additionally comprising~~ wherein said means for mixing inspired air ~~communicated to said user being~~ is adjustable, thereby allowing more or less ambient air to communicate with said inspiratory path to ~~provide means to~~ adjust the oxygen levels of said inspired air.

10. (currently amended) The apparatus of claim 7 ~~additionally comprising:~~ wherein said means for mixing inspired air ~~communicated to said user being~~ is adjustable, thereby allowing more or less ambient air to communicate with said inspiratory path to ~~provide means to~~ adjust the oxygen levels of said inspired air.

11. (currently amended) The apparatus of claim 8 ~~additionally comprising:~~ wherein said means for mixing inspired air ~~communicated to said user being~~ is adjustable, thereby allowing more or less ambient air to communicate with said inspiratory path to ~~provide means to~~ adjust the oxygen levels of said inspired air.

12. (currently amended) The apparatus of claim 3 additionally comprising:
apertures communicating through said sidewall between said $CO_2$ absorption chamber and ambient air adjacent to said sidewall;
and wherein said reservoir membrane is comprised of flexible thermo-conductive material that effectively equalizes the temperature of the expired air in said reservoir with communicating ambient air, thereby providing a means to decrease ~~decrea s~~ the dew point of the said expired

air in order to reduce the humidity thereof and a means to decrease the temperature of said expired air.

13. (currently amended) The apparatus of claim 4 additionally comprising:
apertures communicating through said sidewall between said $CO_2$ absorption chamber and ambient air adjacent to said sidewall;
and wherein said reservoir membrane is comprised of flexible thermo-conductive material that effectively equalizes the temperature of the expired air in said reservoir with communicating ambient air, thereby providing a means to decrease ~~decreases~~ the dew point of the said expired air in order to reduce the humidity thereof and a means to decrease the temperature of said expired air.

14. (currently amended) The apparatus of claim 11 additionally comprising:
apertures communicating through said sidewall between said $CO_2$ absorption chamber and ambient air adjacent to said sidewall;
and wherein said reservoir membrane is comprised of flexible thermo-conductive material that effectively equalizes the temperature of the expired air in said reservoir with communicating ambient air, thereby providing a means to decrease ~~decreases~~ the dew point of the said expired air in order to reduce the humidity thereof and a means to decrease the temperature of said expired air.

15. (currently amended) The apparatus of claim 6 wherein said means for mixing inspired air ~~communicated to said user from said inspiratory path~~ with ambient air comprises one or a combination of: at least one passage communicating between said inspiratory path and ambient air and a demand valve, said demand valve opening when the volume of the said reservoir is fully depleted thereby allowing replenishment of the breathing volume for the user.

16. (currently amended) The apparatus of claim 9 wherein said means for mixing inspired air ~~communicated to said user from said inspiratory path~~ with ambient air comprises one or a combination of: at least one passage communicating between said inspiratory path and ambient air and a demand valve, said demand valve opening when the volume of the said reservoir is fully depleted thereby allowing replenishment of the breathing volume for the user.

17. (currently amended) The apparatus of claim 1 ~~additionally comprising:~~ wherein said reservoir is positioned below said $CO_2$ absorption chamber, the apparatus further comprising ~~and providing a~~ means for collection of moisture ~~moister~~ in air expired by said user and holding ~~said~~ moisture in said reservoir with gravity thereby substantially preventing said moisture from communicating with said $CO_2$ absorption chamber.

18. (currently amended) The apparatus of claim 12 ~~additionally comprising:~~ wherein said reservoir is positioned below said $CO_2$ absorption chamber, the apparatus further comprising ~~and providing a~~ means for collection of moisture ~~moister~~ in air expired by said user and holding ~~said~~ moisture in said reservoir with gravity thereby substantially preventing said moisture from communicating with said $CO_2$ absorption chamber.

19. (currently amended) The apparatus of claim 1 wherein said ~~breathing~~ reservoir is disposable and may be removed and replaced when a training session is finished.

20. (currently amended) The apparatus of claim 3 wherein said ~~breathing~~ reservoir is disposable and may be removed and replaced when a training session is finished.

21. (original) The apparatus of claim 1 wherein said inspiratory path is equipped with a port for communication of an oxygen analyser with air in said inspiratory path, said oxygen analyser capable of display of indicia showing the oxygen concentration in the inspired air mixture.

22. (currently amended) The apparatus of claim 3 wherein said $CO_2$ absorption chamber is a canister;
said canister having a chemical means for a $CO_2$ absorption located therein; and
means for attachment of said canister ~~to said case~~ to said aperture end of said reservoir case with said chemical means in communication with said reservoir, whereby said canister is replaceable.

23. (new) The apparatus of claim 1 wherein said reservoir has a volume that is constant.

24. (new) The apparatus of claim 1 wherein said reservoir has a volume that is selectably adjustable by a user.

25. (new )The apparatus of claim 1 wherein said reservoir has a volume that is variable.